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ABSTRACT

The following steps will integrate computers into a volunteer literacy program: (1) decide how the computers will be used, depending on the program's needs (typically, computers are used to help with management chores and to motivate students and help them attain their academic and career goals); (2) investigate software and hardware, including database programs, word processing programs, and educational software for the students; (3) plan to teach staff to operate the computer and associated equipment, be able to choose appropriate software, and integrate the software into instruction; and (4) plan for evaluating the effectiveness of using computers with students, including collecting data about student progress, attitudes, and attendance. (The document contains explanations of kinds of software, including types such as vocabulary and comprehension software that may be of particular interest to literacy programs. Also included is a list of 12 questions to consider when selecting computer software.) (CML)

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An Action Plan for

Integrating Computers into Volunteer Adult Literacy Programs

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An Action Plan for

Integrating Computers into Volunteer Literacy Programs

Step 1: Determine how you want to use computers in your program.

During this initial phase, you should determine:
1. what your needs are
2. how computers can help you to meet those needs

Volunteer literacy programs typically want to use computers for two major purposes:
1. to help with management chores, such as keeping records and generating reports
2. to motivate students and help them attain their academic and career goals. The computer can be used either as a tool or a tutor.

Step 2: Investigate software and hardware.

It is best to begin looking at software first. If you purchase a computer first and then go searching for software, you may find that the software you want will not run on your computer.

Determine what kinds of software programs you will want to use.
1. Management chores generally require a data base program which would be used for record-keeping. With a data base program you would create a separate file of information for each student. The file would typically contain the student's name, address, phone number, the tutor's name, place and time the student is tutored, the number of hours the student is tutored, materials he is using, interests he has, and any other information you want to include, such as whether or not his family and employer know that he is being tutored. You would update information periodically.

2. You would also probably want a word-processing program. You would use this for writing various types of correspondence, reports, etc.

3. You will also need to investigate the various types of programs students will be using. Students may want to use the computer as you do--as a tool. In this case, they will be using word processing or data base programs.

4. Students will also probably be using educational software of various types. (See attached sheet entitled "Types of Software.")

   As you are investigating the software, pay attention to:
   - what makes of computers it runs on
   - other additional requirements such as the number of disk drives it requires, the amount of memory the computer must have to run the program, it cost, whether it requires special graphics cards or a color monitor, etc.

Once you have examined the types of software you are planning to use, it's time to ask yourself which type of computer will best meet your needs.

The three types of computers used most often in settings which serve adult basic learners are:
1. the Apple II computers (Apple IIe, Apple IIc, and Apple IIGS)
2. the Apple Mac
3. the IBM or IBM compatible

When considering these computers, take into account cost, power, ease of use, etc.

You also want to take a look at printers. If you are operating under a tight budget, you will probably want to look at two types of printers:
1. dot matrix printers
2. letter quality printers

Dot matrix printers are more versatile. You can print both text and graphics (pictures, etc.) on a dot matrix printer. Letter quality printers do print nicer looking text, but you cannot print graphics on them.

Step 3: Plan for staff training.

At the most basic level, staff members should:
1. know how to operate the type of computer they will be using
2. know how to use prepared software (get into and out of the program and respond to menus)
3. know how to use the printer which is hooked up to the computer

At a more sophisticated level, staff members should:
1. be able to choose appropriate software to meet students' needs
2. integrate the software into an instructional session

At least one member of the staff should be able to evaluate software for possible purchase. This requires knowing about the major software producers and how to judge the effectiveness of various types of software. A good way to start looking for appropriate software is to read various reviews.

Step 4: Plan for evaluating the effectiveness of using computers with students.

Many adult literacy programs need to collect data to satisfy their funding sources or to seek new funding. You may want to consider collecting at least three types of data related to students who are using computers as part of their program.

1. Collect data about student progress. This can be done with whatever kind of testing you use. Many programs test students at regular intervals--after a set number of hours of instruction. It may be to your advantage to compare the test results of students using computers with those of current or earlier students who did not use computers.
2. Collect data about students' attitudes. You can do this by simply using a questionnaire of some sort. Basically, you want to know how students feel about using computers. Frequently, computers are highly motivating--making students feel better about themselves. Students often also believe that computer programs are effective teaching tools. And if students are using either word processing programs or data base programs, they feel that they are gaining skills which they will be able to apply on the job. Develop a questionnaire which will get at these types of things.
3. Keep records of student attendance. Often students attend more regularly and are less likely to drop out of the literacy program.

Types of Software

Drill and practice. This kind of software is used to reinforce basic, discrete skills in such areas as word recognition, reading comprehension, spelling, grammar, and vocabulary development. Students can often use this software independently. Being able to use a computer often motivates students to practice skills which they find boring when presented as pencil-and-paper activities.

Instruction and drill. This type of software contains a short instruction section--often one or two screens--at the beginning of a lesson. The remainder of the lesson is drill and practice.

Educational games. This kind of software involves competition or earning points as well as drill and practice. Games often motivate reluctant learners. Good educational games require students to spend more time learning than moving pieces around the game board.

Tutorials. This type of software is similar to one-on-one instruction. The computer presents information and then asks a series of questions. Students' answers determine what information the computer will present next. If students answer incorrectly, well-written programs will branch and provide additional information or explanations. If students answer correctly, the computer will proceed to the next part of the tutorial.

Strategy building. This type of software involves problem solving in addition to learning content. Students might learn several strategies for recognizing words in context, such as using context clues, word configuration, and phonics. Or the program might emphasize the importance of prediction in the reading process and give students practice in this skill.

Authoring. This kind of software is a shell program. Tutors must fill in information before students can use the program. For example, Crossword Magic allows tutors to create crossword puzzles. Some pieces of this software come with a few samples all ready to use. Tutors can use these with their students and then go on to create their own exercises or activities.

Word Processing. This type of software allows students to type and easily modify their writing. A variation of this type of software allows students to create various types of greeting cards, letterheads, banners, signs, and fliers. Examples of this type of software include Print Shop and PrintMaster.

Categories of Reading and Writing Software

Computer Literacy. Software in this category helps students learn the keyboard and improve their typing skills.

Integrating Reading and Writing. As the term suggests, software programs in this category contain both reading and writing activities.

Word Recognition. Programs in this category are designed to help students learn new words and recognize more quickly those with which they have some familiarity.

Reading Comprehension. Programs in this category deal with a variety of reading comprehension skills--literal comprehension, inferential comprehension, prediction, sequencing events, analyzing cause-and-effect relationships, and so on.

Language Arts. This category contains a variety of programs, including ones dealing with parts of speech, compound words and contractions, and completing sentences by using context clues.

Writing. These programs fall into one of two subcategories. The first subcategory emphasizes the mechanics of writing. Programs in this subcategory help students to improve their capitalization, punctuation, and spelling. The second subcategory emphasizes the composing aspects of writing. Programs in this second subcategory include word processing programs and story starters.

Vocabulary. Software programs assigned to this category emphasize vocabulary development through work with analogies, categorizing, homonyms, synonyms, antonyms, crossword puzzles, and various word games.

Authoring Software. Programs in this category are shell programs. Tutors or students must fill in information before the programs can be used. For example, Crossword Magic is a program which allows tutors or students to create their own crossword puzzles.

Public Domain Software. Public domain software typically contains a variety of programs. Some of these programs are appropriate for literacy students trying to improve their reading and writing skills; others are not.

Questions to Consider in Selecting Computer Software

1. What hardware and peripherals are necessary to run the program?

2. What are the objectives of the program? How will the program help students to meet their goals?

3. Is the material adult in content and presentation? Does it meet students' needs and interests?

4. Is the program based on sound educational principles?

5. Does the program allow for student control of presentation sequence and rate when appropriate?

6. Does the program allow students to respond quickly and easily (not require unnecessary or excessive keyboarding)?

7. Does the program provide appropriate feedback for both correct and incorrect responses?

8. Can students use the software independently, or must tutors be present to help students?

9. How much time and effort will students and tutors have to put into learning how to use the program?

10. Can novice computer users easily read and understand the manual which comes with the software? Is it well organized, clear, and concise? Does it answer the questions a user might have?

11. If the program has a management system, what does it keep track of? Does the management system cost extra? Is it worth the money?

12. Are backup disks provided? How much do they cost?